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| TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371 | | ATTORNEY'S DOCKET NUMBER 30882/40950 U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 10/5/4633 |
| INTERNATIONAL APPLICATION NO. PCT/EP2004/010615 | INTERNATIONAL FILING DATE 22 September 2004 | PRIORITY DATE CLAIMED 2 October 2003 |
| TITLE OF INVENTION Spherical or Grain-Shaped Semiconductor Element for use in Solar Cells and Method for Producing the Same; Method for Producing a Solar Cell Comprising Said Semiconductor Element and Solar Cell | | |
| APPLICANT(S) FOR DO/EO/US Jaques SCHEUTEN, Volker GEYER, and Patrick KAAS | | |
| Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information: | | |
| 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. | | |
| 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. | | |
| 3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below. | | |
| 4. <input type="checkbox"/> The US has been elected (Article 31). | | |
| 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) | | |
| a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). | | |
| b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. | | |
| c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). | | |
| 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). | | |
| a. <input checked="" type="checkbox"/> is attached hereto. | | |
| b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). | | |
| 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) | | |
| a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). | | |
| b. <input type="checkbox"/> have been communicated by the International Bureau. | | |
| c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. | | |
| d. <input checked="" type="checkbox"/> have not been made and will not be made. | | |
| 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). | | |
| 9. <input type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). | | |
| 10. <input checked="" type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). | | |
| Items 11 to 20 below concern document(s) or information included: | | |
| 11. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. | | |
| 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. | | |
| 13. <input checked="" type="checkbox"/> A preliminary amendment. | | |
| 14. <input checked="" type="checkbox"/> An Application Data Sheet under 37 CFR 1.76. | | |
| 15. <input type="checkbox"/> A substitute specification. | | |
| 16. <input type="checkbox"/> A power of attorney and/or change of address letter. | | |
| 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 – 1.825. | | |
| 18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4). | | |
| 19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4). | | |

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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| U.S. APPLICATION NO. 10/574633 <small>(if known, see 37 CFR 1.55)</small> | | INTERNATIONAL APPLICATION NO. PCT/EP2004/010615 | | ATTORNEY'S DOCKET NUMBER 30882/40950 | |
| 20. <input checked="" type="checkbox"/> Other items or information: International Search Report, return receipt postal card | | | | | |
| The following fees have been submitted | | | | CALCULATIONS | PTO USE ONLY |
| 21. <input checked="" type="checkbox"/> Basic national fee (37 CFR 1.492(a))..... \$300 | | | | \$ 300.00 | |
| 22. <input checked="" type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)..... \$0 All other situations \$200 | | | | \$ 200.00 | |
| 23. <input checked="" type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority..... \$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB..... \$400 All other situations..... \$500 | | | | \$ 500.00 | |
| TOTAL OF 21, 22 and 23 = | | | | \$ 1,000.00 | |
| <input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof. | | | | | |
| Total Sheets | Extra Sheets | Number of each additional 50 or fraction thereof (round up to a whole number) | RATE | | |
| - 100 = | /50 = | | x \$250.00 | \$ | |
| Surcharge of \$130 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)). | | | | \$ | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | | |
| Total claims | 41 - 20 = | 21 | x 50.00 | 1,050.00 | |
| Independent claims | 4 - 3 = | 1 | x 200.00 | 200.00 | |
| MULTIPLE DEPENDENT CLAIM(S) (if applicable) | | | + | | |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$ 2,250.00 | |
| <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by ½. | | | | | |
| SUBTOTAL = | | | | \$ 2,250.00 | |
| Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)). | | | | \$ | |
| TOTAL NATIONAL FEE = | | | | \$ 2,250.00 | |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property | | | | \$ | |
| TOTAL FEES ENCLOSED = | | | | \$ 2,250.00 | |
| | | | | Amount to be refunded: | \$ |
| | | | | Amount to be charged | \$ |

10/574633

PTO-1390 (Rev. 07-2005)

Approved for use through 03/31/2007. OMB 0651-0021

U. S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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IAP20 Rec'd PCT/PTO 03 APR 2006

- a. ☒ A check in the amount of \$ 2,250.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees.
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit
Account No. 13-2855 . A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information
should not be included on this form. Provide credit card information and authorization on PTO-2038

NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be
filed and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:

SIGNATURE

NAME

James P. Zeller

CUSTOMER NUMBER: 04743

28,491

REGISTRATION NUMBER

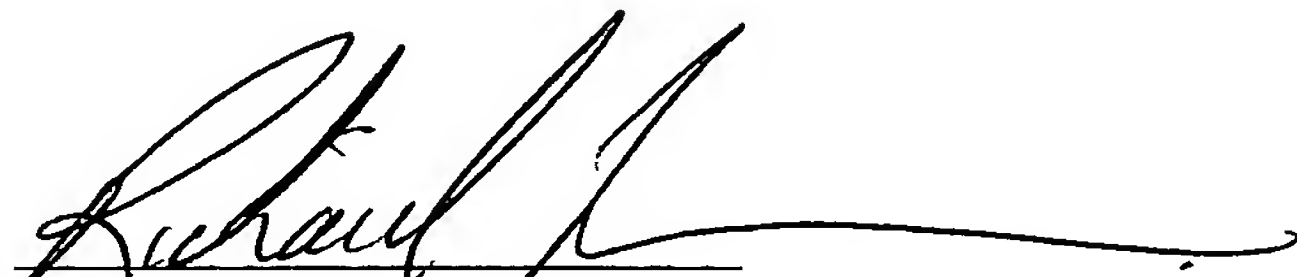
IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE

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| Applicants: Scheuten et al. |) | For: SPHERICAL OR GRAIN-SHAPED |
| |) | SEMICONDUCTOR ELEMENT FOR USE |
| U.S. National Phase of |) | IN SOLAR CELLS AND METHOD FOR |
| PCT/EP2004/010615 filed September |) | PRODUCING THE SAME; METHOD FOR |
| 22, 2004 |) | PRODUCING A SOLAR CELL |
| |) | COMPRISING SAID SEMICONDUCTOR |
| Filed: Herewith |) | ELEMENT AND SOLAR CELL |
| |) | |
| |) | Group Art Unit: To be assigned |
| |) | |
| |) | Examiner: To be assigned |

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that the attached eight items (a) through (h) are being deposited with the United States Postal Service on April 3, 2006, in a postage-paid envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 utilizing the "Express Mail Post Office to Addressee" service of the United States Postal Service under Mailing Label No. EV686094936US.

- (a) Transmittal letter to the United States Designated/Elected Office (DO/EO/US) concerning a filing under 35 U.S.C. §371;
- (b) Application as filed;
- (c) Translated application, including eighteen sheets of description, eleven sheets of claims, and two sheet of drawings;
- (d) Application Data Sheet;
- (e) Preliminary Amendment;
- (f) Translation of Article 34 amendments;
- (g) Information Disclosure Statement; and
- (h) International Search Report.


Richard Zimmermann